

R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments can be found in claims 5 (moved into claim 1), claim 15 (moved into claim 13) and claim 22 (moved into claim 20). Thus, no new matter has been added and no new issues have been raised for the independent claims.

OBJECTION TO THE DRAWINGS

Replacement sheets for FIGS. 1-8 including "Conventional" legends were submitted with the October 15, 2003 Amendment in accordance with MPEP §608.02(g). The language "such as" used in MPEP §608.02(g) indicates that the legend "Prior Art" is not mandatory. The Examiner is respectfully requested to either (i) clearly indicate why the replacement sheets for FIGS. 1-8 are objected to or (ii) withdraw the objection. Regarding the request for information, the contents of FIGS. 1-8 include information known to the Applicant at the time of the invention.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

The rejection of claim 13-19 under 35 U.S.C. §112, first paragraph, is respectfully traversed and should be withdrawn. FIG.

12 of the application illustrates "packet fragmentation across fixed bandwidth channels in accordance with the present invention." (page 27, lines 2-3 of the application). A fragmented payload 212 is illustrated in FIG. 12 spanning three fixed bandwidth channels. One of ordinary skill in the art viewing FIG. 12 and the associated text on pages 27-29 of the application would understand that the Applicant had possession of the claimed invention at the time the application was filed. As such, claims 13-19 are fully compliant with 35 U.S.C. §112, first paragraph, and the rejection should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

The rejection of claims 1, 3-8, 13-18 and 20-23 under 35 U.S.C. §102(e) as being anticipated by Russell et al. '118 (hereafter Russell) has been obviated by appropriate amendment and should be withdrawn.

Russell concerns a payload mapping in synchronous networks (Title). In contrast, the present invention provides an apparatus comprising an interface connectable to a network. The interface may be configured to generate a frame transmitted on the network. The frame may be configured to store one or more data packets in a plurality of channels. A first of the plurality of channels may be configured to store at least one of two or more fragments of the one or more data packets. The frame generally

comprises one or more offset locators configured to point to a next fragment of the two or more fragments.

The Federal Circuit has stated that "[t]o anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim."¹ (Emphasis added). The Federal circuit has added that the anticipation determination is viewed from one of ordinary skill in the art: "There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention."² Furthermore, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."³

Claim 1 provides generating a frame configured to store one or more data packets in a plurality of channels, wherein a first of the channels is configured to store at least one of two or more fragments of the data packets. In contrast, Russell appears to be silent regarding fragmenting **data packets**. In particular,

¹ *Brown v. 3M*, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) citing *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001); *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991) (Emphasis added by Appellant).

² *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991).

³ *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, USPQ2d 1051, 1053 (Fed Circ. 1987).

page 3, section 7 of the Office Action asserts that (i) the claim plurality of channels is similar to the SDH virtual containers, (ii) the claimed frame is similar to an Ethernet frame and (iii) the claimed data packet is similar to an IP packet in the Ethernet frame. However, no evidence is provided that a bit stuffing process of Russell used on an Ethernet frame causes the IP packet inside to be fragmented as understood by one of ordinary skill in the art. Therefore, Russell does not appear to disclose or suggest generating a frame configured to store one or more data packets in a plurality of channels, wherein a first of the channels is configured to store at least one of two or more fragments of the data packets as presently claimed.

Furthermore, Applicant's representative respectfully traverses the assertion on page 3, item 7 of the Office Action that a bit stuffing process of Russell fragments Ethernet data. The Federal Circuit has stated:

There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. V. Genentech Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991).

One of ordinary skill in the art would not consider a bit stuffing process to be the same as a fragmentation process. For example, the web site searchnetworking.techtarget.com provides the following definitions for "bit stuffing" and "fragmentation":

In telecommunication, bit stuffing is the addition of a small number of binary digits to a transmission unit in order to

fill it up to a standard size or to help synchronize signaling rates between points in a network. The receiver knows how to detect and remove or disregard the stuffed bits.

In TCP/IP, fragmentation refers to the process of breaking packets into the smallest maximum size packet data unit (PDU) supported by any of the underlying networks. In the Open Systems Interconnection (OSI) reference model, this process is known as segmentation.

Therefore, bit stuffing of Ethernet frames per Russell does not appear to disclose or suggest fragmenting data packets as presently claimed.

Claim 1 further provides that the frame comprises one or more offset locators configured to point to a next fragment of the two or more fragments of data packets. Despite the assertion on page 3, item 9 of the Office Action (arguing claim 5), the text in column 9, lines 59-63 and FIG. 9, element 905 of Russell do not appear to concern fragments of data packets. In particular, the cited text of Russell reads:

The VC3 payload 903 into which the Ethernet data frames are inserted comprises 955 data traffic bytes, plus a single byte frame identification 904 and 36 bytes of pointers 905 which **point to the positions of the starts and ends of one or a plurality of Ethernet data frames** within the user data portion 903. (Emphasis added)

In contrast, page 3, item 7 of the Office Action asserts that the Ethernet frames were similar to the claimed frame. Thus, the pointers 905 of Russell appear to be pointing to the frames, not the fragments of the data packets. Therefore, Russell does not appear to disclose or suggest that a frame comprises one or more

offset locators configured to point to a next fragment of two or more fragments of data packets as presently claimed.

Furthermore, Applicant's representative respectfully traverses the assertion on page 7, item 24 of the Office Action that IP packets are inherently fragmented. Inherency requires certainty of results, not mere possibility (See, e.g., *Ethyl Molded Products Co. v. Betts Package, Inc.*, 9 U.S.P.Q. 2d 1001 (E.D.Ky 1988)). See also, *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A. 1981)). In contrast, page 7, item 24 of the Office Action admits that the IP packets "can be" fragmented, instead of must be fragmented. Since, no certainty exists for fragmentation, the fragmentation is not inherent. In addition, MPEP §2112 states:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. " *Ex parte Levy* 17 USPQ2d 1461, 1464, 1464 (Bd. Pat. App. & Inter. 1990)(emphasis in original)

However, no evidence or reasoning has been provided in the Office Action why inserting IP packets into Ethernet frames necessarily results in the IP packets being fragmented. The Office has failed to meet its burden to establish inherency of fragmentation. Therefore, Russell does not appear to disclose or suggest at least one of two or more fragments as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 13 provides two or more of a plurality of channels are configured to store two or more fragments from a first of one or more data packets, respectively. As asserted above for claim 1, Russell appears to be silent regarding fragmentation of data packets. Therefore, Russell does not appear to disclose or suggest that two or more of a plurality of channels are configured to store two or more fragments from a first of one or more data packets, respectively, as presently claimed.

Claim 13 further provides the two or more of a plurality of channels are configured to store two or more fragments from a first of one or more data packets, respectively, and the two or more channels are separated by at least one of the channels. In contrast, Russell appears to be silent regarding channel separations between two channels transporting fragments of a data packet. Furthermore, the assertion on page 4, item 12 of the Office Action that Russell discusses Ethernet frames separated by at least one channel is moot. The claim language is to separate the data packet fragments (asserted similar to the IP data packets), not the frames (asserted similar to the Ethernet frames). Therefore, Russell does not appear to disclose or suggest two or more of a plurality of channels are configured to store two or more fragments from a first of one or more data packets, respectively, and the two or more channels are separated by at least one of the channels as presently claimed.

Furthermore, the assertion on page 4, item 12 of the Office Action regarding at least one channel separation appears to be a conclusory statement:

Russell et al. discloses that to carry an Ethernet 1 Gbits/s channel over a synchronous network, the Ethernet channel is mapped into 7 VC4 containers, each having a capacity of 139 Mbits/s. If the segmentation and reassembly scheme later described by Russell et al. caused the frames to be segmented over two or more virtual containers, then they would be separated by at least one channel.

The above text does not explain why an Ethernet frame fragmented into two channels must expressly have at least one channel separation between the fragments. Inherency does not appear to apply as one possible approach would be to place the fragments into adjoining VC4 channels (e.g., no separation). Therefore, Russell does not appear to disclose or suggest two or more of a plurality of channels are configured to store two or more fragments from a first of one or more data packets, respectively, and the two or more channels are separated by at least one of the channels as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 13 further provides that after fragmentation, a first data packet comprises an offset locator configured to point to a next of one or more data packets storing a next fragment of two or more fragments. Despite the assertion on page 5, item 14 of the Office Action (arguing claim 15), the text in column 10, lines

9-13 of Russell do not appear to discuss data packets comprising offset locators. The cited text of Russell reads:

In the example of FIG. 9, first pointer 906 points to an end of first Ethernet data frame 901, second pointer 907 points to a start of a second Ethernet data frame 902 and third pointer 908 points to an end of the second Ethernet data frame 902. A minimum size of Ethernet data frame of 64 bytes may be incorporated and a minimum gap between Ethernet data frames of 120 bytes may be accommodated, at 100 Mbits/s.

However, page 4, item 12 of the Office Action asserts that IP packets of Russell are similar to the claimed data packets. As such, neither the above cited text, or any other section of Russell appear to discuss IP packets having offset locators. Therefore, Russell does not appear to disclose or suggest that after fragmentation, a first data packet comprises an offset locator configured to point to a next of one or more data packets storing a next fragment of two or more fragments as presently claimed. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 20 provides configuring a first and a second of a plurality of channels to store one or more fragments of one or more data packets. As asserted above for claim 1, Russell appears to be silent regarding fragmentation of data packets. Therefore, Russell does not appear to disclose or suggest configuring a first and a second of a plurality of channels to store one or more fragments of one or more data packets as presently claimed.

Claim 20 further provides that a first of the fragments in the first channel is linked by an offset pointer to a second of the fragments in the second channel. Despite the assertion on page 4, item 12 of the Office Action, the pointer 905 in FIG. 9 of Russell appears to point to multiple Ethernet frames within the same virtual channel 903, not to fragments in different channels. Therefore, Russell does not appear to disclose or suggest a first of the fragments in a first channel being linked by an offset pointer to a second of the fragments in a second channel as presently claimed.

Claim 20 further provides a step for encapsulating each of one or more fragments with a header and a trailer. Despite the assertion on page 5, item 14 of the Office Action (arguing claim 22), the text in column 10, lines 9-13 of Russell (reproduced above) appears to be silent regarding encapsulation. Therefore, Russell does not appear to disclose or suggest a step for encapsulating each of one or more fragments with a header and a trailer as presently claimed.

Furthermore, Applicant's representative respectfully traverses the assertion on page 8, item 26 of the Office Action that reassembling Ethernet frames inherently requires seven VC4 containers to be linked by offset pointers. No basis in fact and/or technical reasoning to reasonably support the asserted inherency has been provided in the Office Action as required by

MPEP §2112. In addition, seven VC4 containers may be (i) time multiplexed on a single ring in STS/OC-48 and faster systems without offset pointers and (ii) spatially multiplexed across multiple rings for STS-OC-12 and slower systems without offset pointers. Therefore, linking with offset pointers is not a certainty and thus not inherent. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 6 provides a frame comprising one or more header locations configured to identify a next fragment of two or more fragments. In contrast, Russell appears to be silent regarding identifying subsequent fragments. Furthermore, the assertion on page 4, item 9 of the Office Action that column 9, lines 59-63 of Russell (reproduced above) concern locating fragments appears to show a structure different than as claimed. In particular, FIG. 9 of Russell shows that the pointers 905 are part of a VC-3 container 900 (asserted similar to the claimed channels). The pointers 905 of Russell do not appear to be part of the Ethernet frames 901 or 902 (asserted similar to the claimed frame). Therefore, Russell does not appear to disclose or suggest a frame comprising one or more header locations configured to identify a next fragment of two or more fragments as presently claimed. Claim 16 provides language similar to claim 6. As such, claims 6 and 16 are fully patentable over the cited reference and the rejection should be withdrawn.

Claim 7 provides a frame comprising one or more trailer locations each configured to identify either (i) an end of one or more offset locators or (ii) an end of one or more data packets. In contrast, Russell appears to be silent regarding trailers identifying ends of either offset locators or data packets. Furthermore, the assertion on page 4, item 9 of the Office Action that column 10, lined 9-12 of Russell (reproduced above) concern locating fragments appears to show a structure different than as claimed. In particular, FIG. 9 of Russell shows that the pointers 906, 907 and 908 are part of a VC-3 container 900 (asserted similar to the claimed channels). The pointers 906, 907 and 908 of Russell do not appear to be part of the Ethernet frames 901 or 902 (asserted similar to the claimed frame). Therefore, Russell does not appear to disclose or suggest a frame comprising one or more trailer locations each configured to identify either (i) an end of one or more offset locators or (ii) an end of one or more data packets as presently claimed. Claim 17 provides language similar to claim 7. As such, claims 7 and 17 are fully patentable over the cited reference and the rejection should be withdrawn.

The rejection to claims 4 and 12 should be withdrawn as claims 4 and 12 were cancelled in the October 15, 2003 amendment.

Applicant's representative respectfully traverses the assertions on page 8, item 27 that the Applicant agrees that the pointers of Russell anticipate at least one of the three claimed

locators. No such admission was made. The Office Action apparent interpretation of silence as an admission is incorrect.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 2 and 10 under 35 U.S.C. §103(a) as being unpatentable over Russell is respectfully traversed and should be withdrawn.

The rejection of claims 9 and 19 under 35 U.S.C. §103(a) as being unpatentable over Russell in view of Ramfelt et al. '315 is respectfully traversed and should be withdrawn.

Claims 2, 9, 10 and 19 depend directly from independent claim 1 or 13 which are believed to be allowable. As such, claims 2, 9, 10 and 19 are fully patentable over the cited reference and the rejection should be withdrawn.

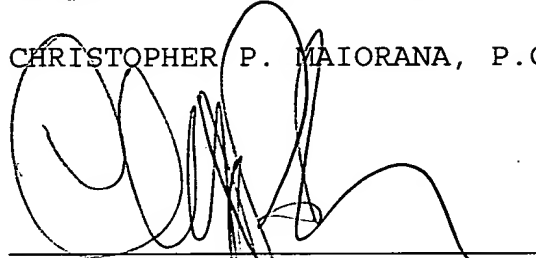
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicant's representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office
Account No. 50-0541.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Christopher P. Maiorana', written over a horizontal line.

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